



MULTI-TEMPERATURE REFRIGERATED CONTAINER SYSTEM (MTRCS) | DoD CFD

PURPOSE:

The Multi-Temperature Refrigerated Container System (MTRCS) provides a flexible, rapidly deployable, resource efficient, multi-fueled, refrigerated, food distribution capability that enables meal preparation in multiple environments and operational scenarios. The MTRCS supports the Future Modular Force Concept by providing 3 days of rations for 800 Soldiers when utilized in conjunction with the Container Roll-in/out Platform (CROP). The system is designed to be used primarily by Army Subsistence Platoons (SPs) and Brigade Combat Teams' maneuver elements in field feeding operations across the battle space. It will also be used by medical units for the transportation and refrigerated storage of medical supplies, including blood products and vaccines.

CHARACTERISTICS:

MTRCS is a highly mobile multi-temperature partitioned refrigerated container system that provides simultaneous transport of frozen and chilled semi-perishable rations on a single platform directly to the field kitchen site. MTRCS is the follow-on generation of refrigeration systems, intended to replace the Refrigerated Container System (RCS). MTRCS can transport and store both refrigerated and frozen products in a single container. The system consists of an insulated 8×8×20 ISO container that can operate on the move with an integral engine-driven Refrigeration Unit complete with custom selectable/individually controlled compartments with setpoints ranging from -5°F (-21°C) to 60°F (16°C). The two compartments are separated by a removable partition, which allows for varied proportions of refrigerated and frozen storage; this also allows for use as a single temperature container. A double set of end wall doors and a side door can be used to optimize loading and unloading of separate compartments. An integral bale bar and rail system enables it to be transported via the PLS or HEMTT-LHS. An auxiliary fuel tank and a commercially available transport refrigeration unit keep chilled and frozen cargo at the optimum temperatures during transport via aircraft, ship, rail or truck.

CAPABILITIES & BENEFITS:

- Can be located directly at the field kitchen site.
- Operation on the move provides increased operational flexibility and logistics capability while decreasing operational and transportation costs.
- Eliminates the need for a forward area Ration Break Point.
- Compartment temperatures operate independently, allowing internal temperatures to be controlled from -5°F (-21°C) to 60°F (16°C) in ambient temperatures ranging from -25°F (-32°C) to 120°F (49°C).
- Multi-powered operation includes integral JP-8/diesel engine drive, 440 VAC shipboard operations and 220 VAC land based operation.
- Integral bale bar and rail system makes the MTRCS land, sea, and air transportable on any military or commercial conveyance capable of transporting either ISO based or PLS/LHS assets.
- Both perishable and semi-perishable rations move on the same asset, allowing the SPs to accomplish their mission more efficiently.

COMMENTS:

Initial production for the MTRCS began in FY09, and a Full Materiel Release Decision for MTRCS is planned to be completed by July 2010.

POINT OF CONTACT:

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AT A GLANCE:

- **DIMENSIONS:**
8 ft H × 8 ft W × 20 ft L (2.4 × 2.4 × 6.1 m)
- **REFRIGERATION SYSTEM:**
Integral, multi-fueled commercial Carrier Genesis R-90 CT3-69 TriVortex Diesel Engine Drive
- **REFRIGERANT:**
Non-ozone depleting R-404A
- **STANDBY OPERATION:**
208VAC/230VAC 3 phase
50/60 Hz or 440 VAC 3 phase 50/60 Hz shipboard power
- **COOLING/HEATING CAPACITY:**
20,500 BTU/hour and 16,000 BTU/hour
- **WEIGHT:**
 - Tare: 13,180 lbs (5,931 kg)
 - Gross: 52,900 lbs (23,805 kg)

